

What is claimed is:

1. A heat treatment jig for a semiconductor substrate that is mounted on a heat treatment boat of a vertical heat treatment furnace, comprising:

a semiconductor substrate that is heat treated;

a first jig that is constituted of a silicon material and comes into direct contact with the semiconductor substrate to support; and

a second jig (holder) that holds the first jig and is mounted on the heat treatment boat.

2. A heat treatment jig for a semiconductor substrate according to

Claim 1:

wherein the first jig has, in a region that comes into direct contact with the semiconductor substrate, a thickness in the range of from 0.5 to 10 mm, the surface roughness in the range of from 0.02 to 10 μm and the flatness of 100 μm or less; and

the second jig has, in a region that comes into direct contact with the first jig, a thickness in the range of from 0.5 to 10 mm, the surface roughness in the range of from 0.02 to 10 μm and the flatness of 200 μm or less.

3. A heat treatment jig for a semiconductor substrate according to

Claim 1:

wherein the first jig is 0.5 mm or more in a width that comes into direct contact with the semiconductor substrate.

4. A heat treatment jig for a semiconductor substrate according to

Claim 2:

wherein the first jig is 0.5 mm or more in a width that comes into direct contact with the semiconductor substrate.

5. A heat treatment jig for a semiconductor substrate according to one of Claims 1 through 4:

wherein in the first jig, on a surface of a region that comes into direct contact with the semiconductor substrate, any one of a silicon carbide film, an oxide film or a poly-silicon film is formed.

6. A method of heat treating a semiconductor substrate by use of a vertical heat treatment furnace:

wherein a heat treatment jig for a semiconductor substrate that is placed on a heat treatment boat is constituted of a first jig constituted of a silicon material that comes into direct contact with a semiconductor substrate to support and a second jig (holder) that holds the first jig;

wherein the semiconductor substrate held on the first jig is heat treated.

7. A method of heat treating a semiconductor substrate according to Claim 6:

wherein in the case of a slip occurring in a heat treated semiconductor substrate, a position corresponding to the slip in a region that comes into direct contact with the semiconductor substrate of the first jig is ground or polished.